ABSTRACT

Steganography is the art and science of writing hidden messages or hide a message in a manner so that besides sender and receiver, there is no other person who knows or realizes that there is a secret message. Steganography is getting a lot of interest in recent years. With the increasing development of steganography techniques, abuse of knowledge is becoming increasingly large too. Therefore, a knowledge is needed to analyze steganography, which is called steganalysis. Steganalysis is as an art and science of detecting hidden information. Steganalysis was received by law enforcement and the media with opened mind.

The title of this final project is Simulation and Steganalysis Digital Audio Using Discrete Wavelet Transform Method and Principal Component Analysis. Digital audio signal with Waveform Audio Format (WAV) is firstly decomposed by Discrete Wavelet Transform (DWT) and then its wavelet subbands are calculated as features. Then, PCA is used to reduce the dimension of the statistics feature vector. At last, Support Vector Machine (SVM) is utilized as a classifier to distinguish the cover audio signal and the stego audio signal.

The result from this final project is able to detect the hidden message in the audio with accuracy level of 60%.

Keywords: Steganalysis, Discrete Wavelet Transform (DWT), Principal Component Analysis (PCA), Waveform Audio Format (WAV)